DIY SOXHLET EXTRACTOR

This device was made from parts found in the garbage pretty much. However, it is capable of continuously cycling fresh solvent through a sample of your favorite botanical, leaving the actives in the bottom, and allowing you to recover the solvent after the extraction is complete.

During operation, the big pickle jar sits in an oil bath on an electric hotplate. Ice and water are added to the small bell jar on top, and the sample is loaded into the lil tupperware in a coffee filter. Temperature is determined by the boiling point of your solvent.

Polypropylene (recycle code #5) will decompose under any petroleum-based solvent. HDPE is a must.

This version has been tested with 91% isopropyl-alcohol. It was designed for use primarily with methanol, as it has a lower boiling point, which allows operation at a temperature that will not destroy most actives.

You will have to find another container if used with naptha or hexane.

The bell jar thing came off a solar outdoor light that's on a stake you stab in the ground. The glass just protects the LEDs or whatever. It's thicker glass than a standard mason jar and holds about a pint.

When the unit is in operation, you get 1-2 drips per second through your botanical sample. When the extraction cycle is complete, a small cup can be used in place of your sample to collect the excess solvent from your alkaloids.
Surprisingly, very little pressure builds up during operation, and you can't even smell your boiling solvent.

A closeup of the connection between condenser and sample chamber showing the holes which allow the solvent to pass through:

Condenser and sample basket, ready to load up:

Pint jar with two poly hoses which are used to remove excess water when the ice cubes melt in the condenser:

The bell jar and pickle jar didn't fit together perfectly so a section of plastic kemp's container was used to provide a flexible tapered seal which works a lot better than it looks: